

NOTE

A New Method for Determining the Sex of  
Living Weevils

As part of the USDA-ARS biological control of weeds program, the biology of the host specificity of several weevil species have been studied. Since reliable morphological differences for sexing the adults are not known, copulating pairs have been collected and then males and females separated (Clement et al. 1988, Proceedings of the Entomological Society of Washington 90: 501-507). This procedure is very time consuming and often it is difficult or impossible to obtain large numbers of sexed adults.

Working with *Larinus minutus* Gyl., distinct morphological differences between males and females were observed. Examination of adults of *Bangasternus orientalis* Capiomont, *B. fausti* Reit., *Larinus curtus* Hochhut, *L. onopordi* Fabricius, and *Eustenopus villosus* (Boheman) showed that the same differences exist in males and females of these species. Similar dimorphism may also exist in other species of Curculionidae.

Differences in shape, size, and vesture of the pygidium are the main differences between the sexes. In females the pygidium

consists of one part, bears none or few setae, and is normally brown (Fig. 1). In males, the pygidium is composed of two parts, and is covered with dense setae that are turned toward the center (Fig. 2).

If it is difficult to observe the pygidium under the stereomicroscope (it might be hidden under the elytra), the sternite of the weevil may be pulled down gently with a pinning needle. In many cases the female's anal opening will be visible. Contrary to the female, the male's pygidium comes down and therefore its anal opening is not visible (Fig. 3).

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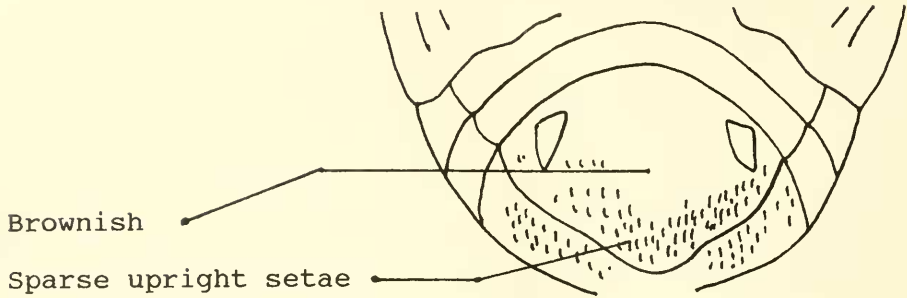


Figure 1: Dorsal view of pygidium of *Larinus minutus* female

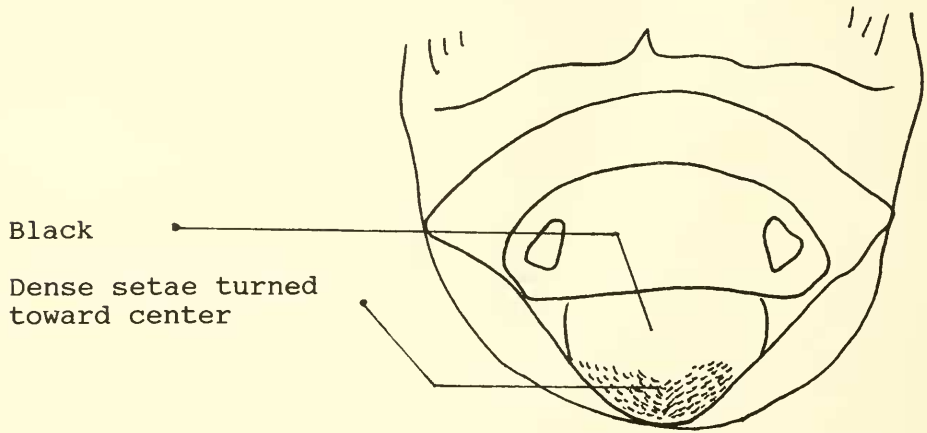


Figure 2: Dorsal view of pygidium of *Larinus minutus* male

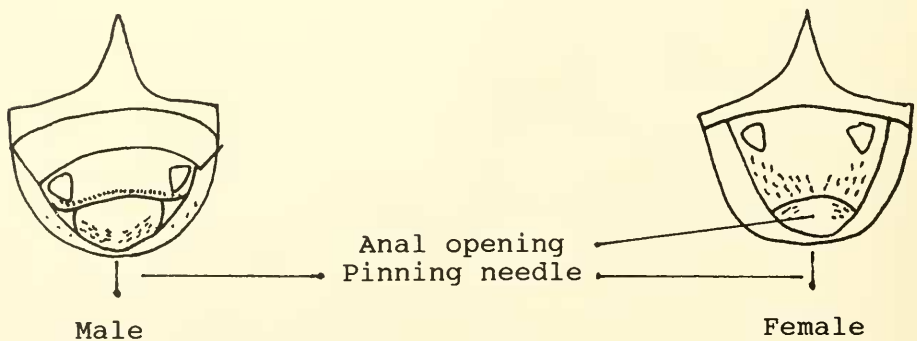


Figure 3: Visible anal opening of *Larinus minutus* female and invisible anal opening of male